Part II

Environmental Community Air Monitoring Plan During the Abatement and Demolition of 133-135 Greenwich Street and 21-23 Thames Street

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Environmental Community Air Monitoring

1.0 General:

Environmental air monitoring and visual observation will be conducted during the abatement and demolition of the buildings located at the 133-135 Greenwich Street/21-23 Thames Street site (The Site). The proposed program consists of two primary forms of environmental monitoring: Work Area Monitoring required by law for environmental remediation projects and intended to monitor the efficacy of project engineering controls; and voluntary Community Monitoring intended to gauge and document the impact (or lack thereof) of the project to the surrounding area.

1.1 Operations to be Monitored

The project schedule for The Site includes four weeks of soft-strip contaminants of potential concern (COPCs) abatement and removal, asbestos abatement and removal under the asbestos rules and a variance from the NYCDEP, and four weeks of conventional demolition. All work will be monitored for visible emissions by the Environmental Consultant's Site Hygienist. The Abatement Phase regulated under NYC DEP will be monitored under both a Community Air Monitoring Program, and a Work Area Monitoring Program. The Demolition phase of the project will be monitored under the Community Air Monitoring Program. All air monitoring conducted under this plan will be conducted by the Environmental Consultant's New York State DOL certified air sample technicians under the supervision of the Environmental Consultant's Certified Industrial Hygienist (CIH).

1.2 Project Monitoring

Monitoring of this project will include all standard monitoring functions for environmental remediation projects including observations for visible emissions, air sampling and analyses, inspection and monitoring of the contractor's work practices, and reporting to the Owner and the Regulators. These general monitoring functions will be applied to both the Abatement Phase and Demolition Phase of this project.

1.3 Neighboring Properties

The Environmental Community Monitoring Plan described in this document is intended to address the impact of the project to the surrounding area. In addition to that effort, properties directly adjacent to the project site have been given particular attention by this plan. In addition, project information has been given to the Owner for distribution to neighboring building owners and lessees.

1.3.1 Trinity Place Schools

Extensive effort and cost has been invested in working with the NYC Department of Education to provide engineering controls and testing support to protect the educational facilities at 100 and 90 Trinity Place. Detailed information on these efforts is included in Attachment II to Part I of this submittal – "Work Plan."

1.3.2 120 Cedar Street

Specific measures are planned to monitor the impact of the project on the 120 Cedar Street building. One of the Environmental Community Air Monitoring stations specified in this document (school auditorium roof station) is directly adjacent to this building (within 20'). In addition, the Environmental Consultant will conduct Abatement Phase work area monitoring continuously during abatement phase work shifts between the project site and the 120 Cedar Street building.

1.3.3 86 Trinity Place (Bldg. South of Thames Street)

This building, across Thames Street from the Project Site, will be separated from the project site by two Environmental Community Air Monitoring stations. In addition, during the Abatement Phase, extensive work area monitoring will be conducted on Thames Street.

1.4 Environmental Sampling and Analytical Methodologies

Sampling and analytical methodologies utilized for this Project, will comply with published protocols from EPA and/or National Institute of Occupational Safety and Health ("NIOSH"). Where appropriate other published standards may be substituted and project-specific adjustments to protocols may be made. Generally, sampling will be conducted once every 24-hour work period, except for asbestos (TEM samples), which will be taken for the duration of every work shift and once a day during non-work days during the abatement phase. Real-time particulate monitoring will be on a continuous basis. Instantaneous mercury readings will be obtained to evaluate the air quality around the work site at multiple locations each work day.

2.0 Visible emissions

2.1 Abatement Phase

During each work shift, the Environmental Site Hygienist will conduct a thorough inspection of all engineering control systems including containment barriers, and negative air control systems, and exterior. If any visible emission is noted on the exterior of the work area, all work will be stopped and not restarted until an

evaluation of engineering controls has identified and corrected the cause of the emission. The evaluation may include, but is not limited to, work activities and smoke testing of the isolation barriers. Any damaged or malfunctioning engineering control will be repaired immediately. The work will not be restarted until engineering controls are repaired or determined to be functioning properly.

2.2 Demolition Phase

During each work shift, the Environmental Consultant will observe demolition operations to monitor visible dust in the air and suppression measures being applied by the demolition contractor. The Environmental Consultant may, depending on the severity and duration of dust condition, order a stoppage of the work or require modified work practices to reduce visible dust.

2.3 Notification

The EPA Region 2 office and NYCDEP will be notified promptly of any visible emission observed by the Environmental Consultant to cross the property line of the Buildings. The Environmental Consultant will promptly advise the EPA Region 2 office and the NYCDEP of the corrective actions taken. A report of inspection results and corrective actions taken will be provided to the EPA Region 2 office and NYCDEP within 2 business days of any incident showing visible emissions.

3.0 Abatement Phase Air Monitoring

3.1 Visible Emissions

Monitoring for visible emissions will be conducted as described above in Section 2.0 of this specification.

3.2 Community Air Monitoring

Prior to the commencement of any site work, one week of background community air monitoring will be conducted as detailed in *Table 1 – Community Air Monitoring* in Attachment A (Community Monitoring) to this specification. Community Air Monitoring as detailed in Table 1 will continue through the Abatement Phase and until completion of the Demolition Phase.

Community Monitoring locations are identified on the drawing included in Attachment C (Community Monitoring Locations) to this specification. The locations include the roof of the school auditorium on Cedar Street, the sidewalk bridge on Thames Street, and at ground level at the Southeast Corner of the intersection of Thames and Greenwich Streets. The monitoring station on top of the sidewalk bridge on Thames Street will be located there through the Abatement Phase and for only a portion of the Demolition Phase. Once the demolition of the

21-23 Thames Street building reaches the third level (i.e., parallel to the street bridge), the monitoring station located on top of the sidewalk bridge will be re-located to the fenced school property at street level east of the front of 21-23 Thames Street. The street bridge monitoring station will be re-located during appropriate times when no work is being performed at the buildings.

If the environmental air monitoring locations need to be changed during the abatement phase due to site conditions, NYC DEP and USEPA Region 2 office will be notified promptly. The community air monitoring locations will not be moved until NYCDEP and the USEPA Region 2 office accept the change.

3.3 Abatement Phase Work Area Monitoring

Air monitoring per the requirements of NYC DEP Title 15 will be conducted. Transmission Electron Microscopy (TEM) will be utilized as the analytical method for asbestos. Sample locations will be selected by the Site Hygienist in accordance with Title 15 and based on the configuration of the abatement containment areas. Containment area monitoring of additional Contaminants of Potential Concern (COPCs) that are not regulated under Title 15 will be conducted voluntarily by the Owner. The COPCs to be monitored are: Metals (ICP-AES) and crystalline silica (XRD).

This monitoring is detailed in *Table 3 - Abatement Phase Work Area Monitoring* in Attachment B (Work Area Monitoring) to this specification.

4.0 Demolition Phase Air Monitoring

4.1 Visible Emissions

Monitoring for visible emissions will be conducted as described above in Section 2.0 of this specification.

4.2 Community Air Monitoring

Community Air Monitoring will be conducted as detailed in *Table 1 – Community Air Monitoring* in Attachment A (Community Monitoring) to this specification. Community Air Monitoring will continue through the completion of the Demolition Phase.

Initial Community Air Monitoring locations are identified on the drawing included in Attachment C (Community Monitoring Locations) to this specification. If the environmental air monitoring locations need to be changed during the demolition phase due to site conditions, NYC DEP and USEPA Region 2 office will be notified promptly. The community air monitoring locations will not be moved until NYCDEP and the USEPA Region 2 office accept the change.

5.0 Interpretation of Sample Data

The Target Air Quality Levels and EPA Site Specific Trigger Levels for the Site are set forth in Attachment A, Table 2.

The following actions will be taken if there is an exceedance of Target Air Quality Level. If there is an exceedance of either the Target Air Quality Level or the EPA Site Specific Trigger Level, actions under the EPA Site Specific Trigger Level heading below will govern.

5.1 Target Air Quality Levels

Any 24-hour $PM_{2.5}$ and PM_{10} value in excess of the Target Air Quality Level will be considered an "exceedance" and the actions described below will be taken.

During the first week of sampling any sample of an analyte other than $PM_{2.5}$ and PM_{10} in excess of 3 times the Target Air Quality Level for that analyte, unless superceded by an EPA Site-Specific Trigger Level, will be considered an exceedance and the actions described below will be taken.

Following the first week of sampling, a "rolling average" will be established based initially on the first week's results, to which will be added daily values as results are received from the laboratory. A rolling average value for any analyte, other than $PM_{2.5}$ and PM_{10}, in excess of the relevant Target Air Quality Level will be considered an exceedance of Target Air Quality Level and the actions described below will be taken.

Exceedance of an established Target Air Quality Level for any analyte calculated as provided above will result in an evaluation of engineering controls and work techniques in the source area. This evaluation shall include but not be limited to the evaluation of work activities that may be causing the exceedance, smoke testing of the isolation barriers in question, and inspection and corrective action.

5.2 EPA Site Specific Trigger Levels

Any 24-hour value (work shift value on work days or four hour value on non-work days in the case of asbestos) in excess of the EPA Site Specific Trigger Level will be considered an "exceedance." Exceedances of EPA Site Specific Trigger Levels will result in a stoppage of work associated with the exceedance until an evaluation of emission controls is performed and corrective action is in place. The EPA Site Specific Trigger Levels are applicable to individual sample result. If any of the individual sample results exceed an EPA Site Specific Trigger Level, then notification must be made to the USEPA Region 2 office and the NYCDEP. Work will be reinitiated once the USEPA Region 2 office has agreed (and NYC DEP during the Abatement Phase in the case of asbestos exceedances)

to the corrective action(s) proposed to prevent the potential for exceedances in future work and such corrective actions have been implemented.

5.3 Notification

The USEPA Region 2 (any exceedance) and NYCDEP (asbestos exceedance only) will be notified promptly via phone and electronic mail of any exceedance of either a Target Air Quality Level or a USEPA Site Specific Trigger Level and will be notified promptly of any corrective actions taken in connection with a Target Air Quality Level exceedance or an USEPA Site Specific Trigger Level exceedance.

In the event that an exceedance of a USEPA Site Specific Trigger Level occurs, The Greenwich Street Project, LLC shall prepare an Exceedance Summary Report, following completion of the exceedance assessment, for submission to the USEPA. This will be a 1-2 page report stating nature of the exceedance, causes of the exceedance and corrective actions taken if it was determined to be associated with 133-135 Greenwich Street and/or 21-23 Thames Street.

5.4 Monitoring Data

All Sampling results collected pursuant to this specification, in suitable electronic form, will be promptly provided to the USEPA Region 2, NYCDEP, and NYSDEC offices weekly and exceedances will be reported as provided above. In addition, 24-hour averages and graphical data for all continuous sampling data will be provided to the USEPA Region 2.

Work area monitoring data generated during the abatement phase will be provided promptly in electronic format to NYC DEP. In addition, data for the previous week's monitoring will be posted at the Decontamination Unit for inspector review.

Attachment A

Table 1 – Community Air Monitoring

Location	Parameter(s)	Sample Frequency	Analysis Method	Comment
Site Area	Mercury	Each work day	Lumex, portable mercury analyzer	Lumex results are real-time data logged
Site Area	Particulate (Visible dust emissions)	Continuous during working shifts	Visual Observation	Visual Notations on site log
Site Perimeter-three fixed locations listed below	Particulate PM-2.5, PM-10	Daily	Laser dispersion Real time analysis, E-BAM	The Met One E-BAM (with a heated inlet to address condensible emissions)will be utilized for continuous PM10 and $PM_{2.5}$ monitoring
Site perimeter-one of the fixed locations below.	Particulate PM-2.5, PM-10	Each work day, bi-weekly rotation of locations	TEOM PM-2.5 TEOM PM-10	Comparison data for E-BAMs.
1. SE Corner of Greenwich & Thames Intersection 2. Roof of HS Auditorium 3. East end of Thames Sidewalk Bridge, then fenced area of School Property	1. Asbestos 2. Silica 3. Metals 4. Total Dust 5. Organics	ACM each work shift, and each off-day. Daily Daily Daily Organics – See footnote 2 below	1. TEM 2. XRD 3. ICP/MS 4. Microbalance 5. PCB (EPA TO-7A) Dioxin (EPA T0-9A (mod)) and PAH (EPA TO-13A)	Sampling durations may be modified based on Site Conditions. See footnote 1 below
Field Blanks	All Analytes			In accordance with QAPP and Published Methodology

Footnote 1: Sampling duration and/or flow rates may be modified to provide optimum analyte loading for analysis based on results of ongoing analyses. Initial Sampling flow rates should be in accordance with rates prescribed in the sampling method.

Footnote 2: Organics will be sampled as provided below under "Notes on the Community Air Monitoring Table."

Notes on Community Air Monitoring Table:

General: Blanks will be processed in accordance with the analytical methodologies and standard industry practice.

Asbestos:

Asbestos sample collection will be performed in accordance with NIOSH 7402, "Asbestos by TEM". Asbestos analysis will be performed utilizing Transmission Electron Microscopy ("TEM") analysis specified in 40 CFR Part 763, Asbestos Hazard Emergency Response Act, ("AHERA"), with the following modifications:

1. The sensitivity on TEM air samples will be less than 0.002 s/cc.
2. Both the length and width of all asbestos fibers will be recorded.
3. Confirmation by EDS and/or SAED will be performed for each fiber analyzed.
4. The mineralogy of the fibers will be noted and recorded.

Dust:

Airborne dust and particles at the Site will be monitored using real-time air monitoring instrumentation. Real-time air monitoring for PM-2.5 and PM-10 will be accomplished with direct reading particulate in air monitors. Data from Met One E-BAM Particle Counters are to be data logged. At one location the Met One E-BAM Particle Counter PM-2.5 data will be compared against PM-2.5 results obtained using a TEOM. At another location, the Met One E-BAM Particle Counter PM-10 data will be compared against PM-10 results obtained using a TEOM. This equipment will be operated for at least one week before the Abatement Phase begins. Prior to the commencement of the Abatement Phase, the EPA Region 2 office will be provided with the results comparing the data from the Met One E-BAM with the alternative instrument and the proposal of a correction factor, if needed.

Respirable Dust/Crystalline Silica – Metals – Total Dust:

Respirable dust and crystalline silica sampling will be performed according to NIOSH Method 0600 protocol with analysis following NIOSH Method 7500 (XRD).

Metals sampling and analysis will be performed following NIOSH 7300 "Elements by ICP," except that ICP-MS will be utilized. A hot block/acid digestion will be utilized. Metals to be analyzed by ICP-MS and reported are: Antimony, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Manganese, Mercury (particulate), Nickel and Zinc.

Total Dust sampling and analyses will be conducted by NIOSH 0500.

Mercury:

In addition to metals monitoring for mercury particulate using air filters, real-time monitoring will be performed. The readings will be entered into the PDA program for inclusion with the daily download of sample collection data.

Real-time monitoring will be performed daily throughout the project. Mercury monitoring will be performed utilizing a Lumex RA 915+ direct read instrument.

The Lumex RA915+ will be utilized to obtain detection levels below established Site air contaminant criteria. At a minimum, mercury readings will be taken twice a shift at the fixed air monitoring locations. At the discretion of the Environmental Consultant and as daily Site conditions may dictate, additional mercury readings may be taken.

Organic Compounds (Dioxin/PCBs/PAHs):

Organic compounds samples will be collected at specified points along the project schedule as follows:

1. Background organic compounds monitoring for the 130 Liberty Street Site will be used for this project. Organic background data collected at 130 Liberty Street will be used for this project in conjunction with the data collected as part of the one week background community air monitoring to be conducted for the buildings at 133-135 Greenwich Street and 21-23 Thames Street.
2. Organic samples will be collected at each community monitoring location once a week on a different day of the work week during the Abatement Phase and Demolition Phase, until all days of the work week are used and then the same schedule will be repeated until project completion. Samples from the location with the highest particulate readings for that day will be submitted for analysis. This will result in the processing of the samples that have the best likelihood of representing the "worst case." A total of three samples per week, one Dioxin, one PCB, one PAH will be analyzed.
3. Samples for organic compound analyses will be analyzed within fourteen days under normal laboratory analysis turn-around time

Attachment A

Table 2- Data Reference Levels for Community Monitoring

Analyte	Target Air Quality Levels See Note 1	EPA Site Specific Trigger Levels – See Note 2
Metals		
Antimony	5 ug/m3	14 ug/m3
Barium	5 ug/m3	5 ug/m3
Beryllium	0.02ug/m3	0.2ug/m3
Cadmium	0.04 ug/m3	2 ug/m3
Chromium – See Note 3	0.6 ug/m3	60 ug/m3
Chromium VI		0.6 ug/m3
Copper	10 ug/m3	100 ug/m3
Lead	1.5 ug/m3	5 ug/m3
Manganese	0.5 ug/m3	0.5 ug/m3
Mercury	0.3 ug/m3	3 ug/m3
Nickel	0.2ug/m3	28 ug/m3
Zinc	16 ug/m3	160 ug/m3
Particles and Dusts		
Asbestos	0.0009 f/cc (SEM PCMe fibers)	70 S/mm2 (TEM AHERA structures)
Particulate PM-10 (24 hour average)	150 ug/m3	150 ug/m3
Particulate PM-2.5 (24 hour average)	40 ug/m3	65 ug/m3
Respirable Silica (crystalline)	10 ug/m3	10 ug/m3
Organics (semi-volatiles)		
Dioxins/Furans (2,3,7,8 – TCDD equiv.)	0.00025 ng/m3	0.025 ng/m3
PCB (total Aroclors)	0.12 ug/m3	12 ug/m3
PAH (benzo-a-pyrene equivalent)	0.034 ug/m3	3.4 ug/m3

Note 1: A rolling average after the first week of sampling, except for PM-10 and PM-2.5.
Note 2: A 24-hour value.
Note 3: If a chromium value is in excess of the Target Air Quality Level (0.6 ug/m3), this will result in a stoppage of work; and, that sample will be speciated for chromium VI to determine that its concentration does not exceed the USEPA Site Specific Trigger Level for chromium VI (0.6 ug/m^3), and the appropriate actions pertaining to an exceedance of the USEPA Site Specific Trigger Level for chromium VI will continue to be conducted.

Attachment B

Table – 3: Abatement Phase Work Area Monitoring

Location	Parameter(s)	Sample Frequency	Analysis Method	Comment
Site Area	Visible Dust emissions	Each Work Day	Visual Observation	
All sample points required by NYC DEP Regulations for ACM as determined by Site Hygienist	Asbestos	Work shifts and once a day on non-work days	1. TEM	
Waste Decon Clean-room at Greenwich Street	1. Asbestos 2. Silica 3. Metals	ACM each work day. Alternate Silica & Metals	1. TEM 2. XRD 3. ICP/AES	
Personnel Decon Clean Room at Greenwich Street	1. Asbestos 2. Silica 3. Metals	ACM each work day. Alternate Silica & Metals	1. TEM 2. XRD 3. ICP/AES	
Rotating Basis at Negative Air Exhaust nearest interior abatement	1. Asbestos 2. Silica 3. Metals	ACM each work day. Alternate Silica & Metals	1. TEM 2. XRD 3. ICP/AES	
Blanks	1. Asbestos 2. Silica 3. Metals	2 blanks per day 1 blank per week 1 blank per week	1. TEM 2. XRD 3. ICP/AES	

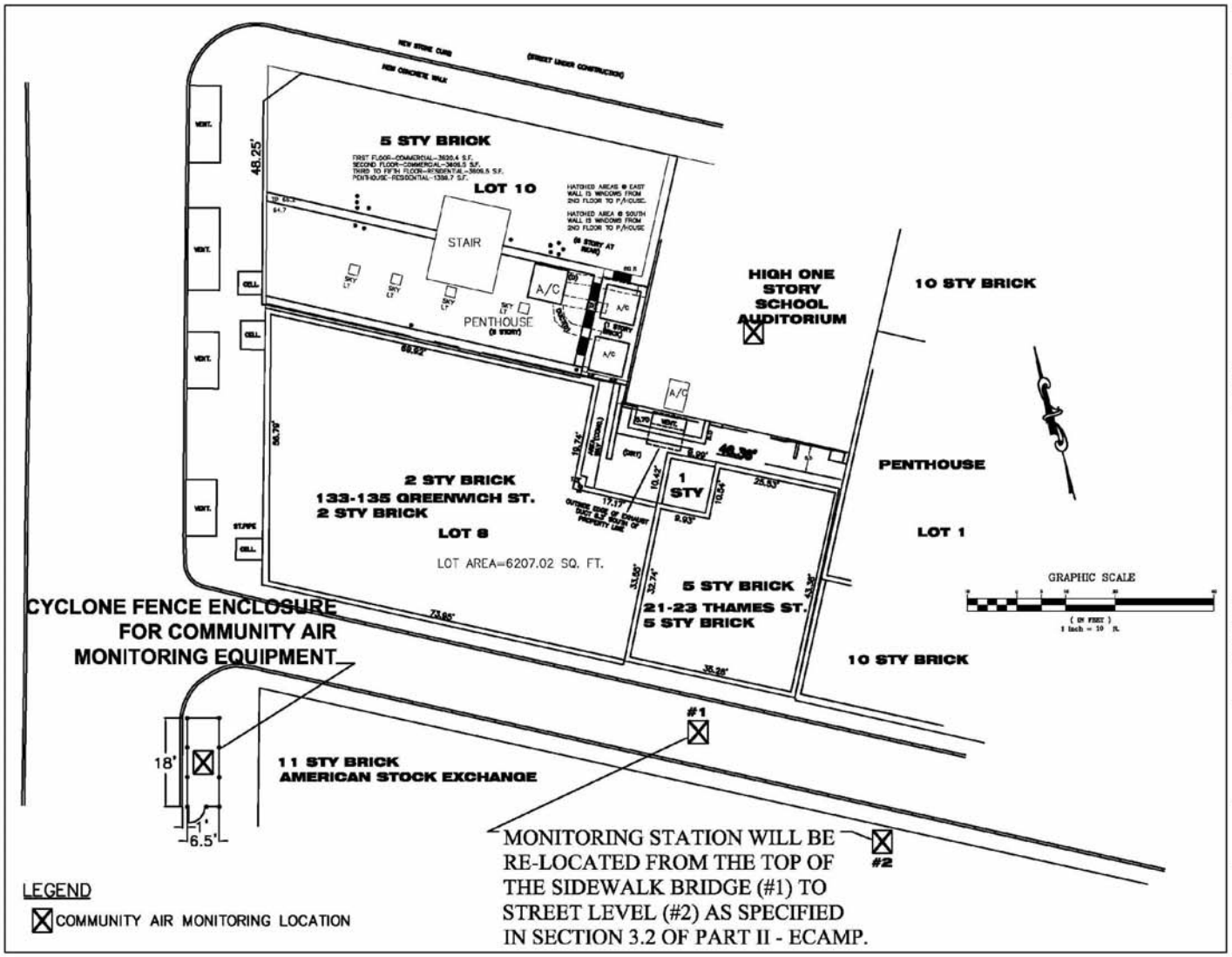
Notes to Table 3:

Work Area Monitoring for Asbestos will be conducted under AHERA Rules and referenced to the 70 s/cc EPA Site Specific Trigger Level.

Work Area Monitoring for all COPCs will be referenced to the applicable OSHA Standard and the EPA Site-Specific Trigger Levels (Table 2).

Attachment C

Community Monitoring Locations



THE COFFEN GROUP, INC.

AIRTEK ENVIRONMENTAL CORP.

AS NOTED

5/31/05

133-135 GREENWICH ST.,
21-23 THAMES STREET
NEW YORK, NY

COMMUNITY AIR MONITORING LOCATION PLAN

AIR-1